CLAIMS:

1. A method for quantifying a cyclic motion within a series of images depicting a moving object subject to composite motion containing a cyclic component and a non-cyclic component of lower frequency than the cyclic component, the method comprising:

(a) computing the composite motion;

(b) computing the non-cyclic component as the integral of motion over a motion cycle; and

(c) subtracting the non-cyclic component from the composite motion so as to obtain the cyclic component.

2. The method according to claim 1, wherein a cyclic period of the cyclic motion component is computed using spectral analysis.

3. The method according to claim 1 or 2, wherein the composite motion is determined by optical flow.

4. The method according to claim 1 or 2, wherein the composite motion is determined using phase correlation of said images.

5. The method according to any of claims 1 to 4, where cyclic motion values are used for evaluating performance of a body organ.

6. The method according to claim 4, when used in a cardiac application to evaluate heart performance.

7. The method according to claim 6, when used for Ejection Fraction analysis.

8. The method according to claim 6, when used for Left Ventricular analysis.

9. The method according to claim 6, when used for Wall Motion analysis.

10. A method for identifying an image depicting an event associated with cyclic motion, the method comprising:

(a) computing the cyclic motion according to the method of any one of claims 1 to 4;

(b) using a graphical representation of the cyclic motion to identify all images matching said event; and

(c) selecting one of said images.

11. The method according to claim 10, wherein the selected image is closest to a predetermined approximation.

12. The method according to claim 10 or 11, wherein the event is least motion.

13. The method according to claim 12, for selecting angiographic images to participate in three-dimensional reconstruction of coronary vessels.

14. The method according to claim 13, including deriving cycle period and approximation for least-motion image from an analysis of an ECG signal.

15. The method according to claim 13 or 14, including distinguishing the end-diastole instance from the end-systole instance by the state of coronary vessel – maximal spreading versus minimal spreading, respectively.

16. The method according to any one of claims 5 to 15 when used for selecting optimal image or images for QCA analysis.

17. The method according to any one of claims 5 to 15 when used for selecting optimal image or images for IVUS analysis.

18. The method according to any one of claims 5 to 15 when used for selecting optimal image or images for LVA analysis.

19. The method according to any one of claims 5 to 15 when used for selecting optimal image or images for Wall Motion analysis.

20. The method according to any one of claims 5 to 15 when used for CT reconstruction.

21. The method according to any one of claims 5 to 15 when used for MRI reconstruction.

22. The method according to any one of claims 5 to 15 when used for PET reconstruction.

23. A system for quantifying a cyclic motion within a series of images depicting a moving object subject to composite motion containing a cyclic component and a non-cyclic component of lower frequency than the cyclic component, the system comprising:

a composite motion unit computing the composite motion,

a non-cyclic motion unit for computing the non-cyclic component as the integral of motion over a motion cycle, and

a subtraction unit for subtracting the non-cyclic component from the composite motion so as to obtain the cyclic component.

24. A system for identifying an image depicting an event associated with cyclic motion, the system comprising:

a cyclic motion unit for computing the cyclic motion and deriving data representative of a graphical representation thereof,

an image identification unit responsive to said data representative of a graphical representation of the cyclic motion for identifying all images matching said event, and

an image selection unit for selecting one of said images.

25. The system according to claim 24, wherein the image identification unit is adapted to identify minimal cyclic motion.

26. The system according to claim 25, wherein the image selection unit is adapted to select angiographic images to participate in three-dimensional reconstruction of coronary vessels.

27. The system according to claim 26, including an ECG analyzer for deriving cycle period and approximation for least-motion image from an analysis of an ECG signal.

28. The system according to claim 26 or 27, including an image processing unit coupled to the image selection unit for distinguishing the end-diastole instance from the end-systole instance by the state of coronary vessel – maximal spreading versus minimal spreading, respectively.